

What is claimed is:

1. A brushless motor comprising a rotor having a magnet with an axial length of  $L_M$  and a stator having a stator core provided with a plurality of teeth arranged peripherally vis-à-vis said magnet with an air gap interposed between them and said magnet and having auxiliary grooves formed at the front ends thereof, the axial length  $L_s$  of said stator core being greater than the axial length  $L_M$  of said magnet ( $L_s > L_M$ ).
2. A brushless motor according to claim 1, wherein said stator core is provided with overhanging portions thereof that are not vis-à-vis the magnet but axially outstanding from the respective axial ends of the magnet.
3. A brushless motor according to claim 2, wherein the overhanging portions have an axial length  $X$  between 0.5 mm and 8.0 mm.
4. A brushless motor according to claim 1, wherein the center of each of said auxiliary grooves of each of said teeth is located on a radial line prolonged from the corresponding circumferential end face of the teeth.
5. A brushless motor according to claim 1, wherein said auxiliary grooves are made to have a width equal to the width of the slots separating adjacent teeth.
6. A brushless motor according to claim 1, adapted to be used as drive source of an electric power steering device.